

**REMARKS**

Reconsideration and allowance of the above-identified application are respectfully requested.

Claims 1-10, 17-27, 34-39, 44, 46, 48, 50, 51, 54, 55, 58, 59 and 85-96 are currently pending, wherein claims 1, 17, 35, 44, 46, 48 and 85 are independent. Claims 11-16, 28-33, 40-43, 45, 47, 49, 52, 53, 56, 57 and 60-84 have been canceled.

Applicant notes with appreciation the characterization of claims 5-9, 21-26, 34, 37-39, 50, 54, 59 and 90-95 as allowable if rewritten in independent form, including all of the feature of the base claim and any intervening claims. Applicant reserves the right to rewrite these claims in independent at a later date.

Applicant further notes with appreciation the acknowledgment by the Patent Office of the Information Disclosure Statements previously submitted to the Patent Office on July 22, July 25, July 29, August 2, August 8, August 9, August 10, and August 11, 2005.

Applicant would like to thank Examiner Phuong M. Phu for the personal interview conducted on November 30, 2005. In compliance with M.P.E.P. § 713.04, the substance of that interview is incorporated in the following remarks.

During the interview, the rejection of claims 1-4, 10, 17-20, 27, 35, 36, 44, 46, 48, 51, 55, 58, 85-89 and 96 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Henrie (U.S. Patent No. 6,751,202, hereinafter “Henrie”) in view of Iwaooji (U.S. Patent No. 5,202,528, hereinafter “Iwaooji”) was discussed. No agreement was reached. These rejections are respectfully traversed.

As recited in, for example, independent claim 1 of the present application, exemplary embodiments of the present invention require **two** transmitters – a near end transmitter and a

near end **replication** transmitter. It is respectfully submitted that the combination of Henrie and Iwaooji does not teach or suggest at least the feature of a near end replication transmitter, as recited in, for example, independent claim 1 of the present application.

As understood by Applicant, Henrie is directed to a data access management device for use in full-duplex two-wire communication systems. As illustrated in Figure 1 of Henrie, the data access arrangement (DAA) and hybrid conversion system 10 includes a Host 12, a Controller 14, a Digital Signal Processor (DSP) 16, a Codec 18 and a Hybrid 20 for interfacing to a telephone line 22 via Regulatory Circuitry 24. [see Henrie, column 2, lines 25-29] The Codec 18 includes a Digital-to-Analog Converter (DAC) 30 used to convert digital samples, transmitted by the Host 12 and processed by the DSP 16, to an analog transmission signal (TX) (see node 34) for transmission to the telephone line 22 via the Hybrid 20. [Henrie, column 2, lines 29-40]

The Hybrid 20 includes a Transmit Amplifier 40, a Termination Impedance 50, a Low Pass Filter (LPF) 60, a DC Blocking Filter (DCBF) 70, a Receive Amplifier 80, a Summer 90, a variable Gain Stage 100, and a Band Pass Filter (BPF) 110. The Hybrid 20 receives the analog transmission signal TX at node 34 from the DAC 30. The transmission signal TX at node 34 is routed along a cancellation path and a transmission path to the telephone line 22. The transmission signal along the transmission path is amplified by Transmit Amplifier 40 and passes through a Termination Impedance 50. [Henrie, column 2, lines 42-52] Thus, Henrie teaches that the analog transmission signal TX as received by the Hybrid 20 is directed at node 34 along the cancellation path and the transmission path to the telephone line 22. The transmission signal cancellation path provides an echo cancellation signal at the

Summer 90 to cancel the contribution to the receive signal that is due to the undesired feedback portion of the outgoing transmission signal. [Henrie, column 3, lines 15-21]

It is respectfully noted that the DAC 30 outputs the transmission signal TX, rather than generating a replica of such a signal. The transmission signal TX supplied to the bandpass filter 110 is the **same** transmission signal TX that is supplied to the Transmit Amplifier 40. In other words, the Patent Office's misinterpretation of Henrie is demonstrated by the fact that the **same** transmission signal TX output by the DAC 30 is supplied to the Transmit Amplifier 40 **and** the bandpass filter 110. [*see* Henrie, Figure 1 at node 34; column 3, lines 15-21] Thus, contrary to the assertions of the Patent Office, it is respectfully submitted that the DAC 30 is not a near end replication transmitter. It is respectfully submitted that nowhere does Henrie teach or even suggest the feature of a near end replication transmitter.

As understood by Applicant, Iwaooji is directed to an electronic musical instrument with a note detector capable of detecting a plurality of notes sounded simultaneously. According to Iwaooji, a voice input to a microphone is converted by an A/D converter to a digital signal that is then delivered to a DSP. The DSP extracts the notes of the input voice to determine the notes. The processing by the DSP includes bandpass filtering with a frequency corresponding to each note as the central frequency. A plurality of notes is processed on a time divisional basis to determine the respective notes. A new musical sound electronically corresponding to one or more notes extracted as the result of the note detection is then generated on a real time basis. [Iwaooji, Abstract] It is respectfully submitted that nowhere does Iwaooji teach or even suggest at least the feature of a near end replication transmitter.

Consequently, it is respectfully submitted that Iwaoji does not address the above-identified deficiencies of Henrie.

During the interview, the Patent Office admitted that it is giving no patentable weight to the word “replication” in the feature “near end replication transmitter,” and is, therefore, considering the features of the “near end transmitter” and the “near end replication transmitter” to be the same. However, such an interpretation of the claims is wholly and completely improper. According to the established mandates of the patent laws, to establish a *prima facie* case of obviousness, the combination of references must teach or suggest all of the claim limitations. [see M.P.E.P. § 2143] “**All words in a claim must be considered** in judging the patentability of that claim against the prior art.” [M.P.E.P. § 2143.03 (emphasis added)] For the Patent Office to casually ignore words in the claim evinces a clear, complete and utter derogation of the mandates of claim interpretation and the requirements for establishing a *prima facie* case of (alleged) obviousness. Therefore, the Patent Office’s failure to accord patentable weight to the word “replication” in the feature “near end replication transmitter” is wholly improper.

It is also noted that *even if* the combination of Henrie and Iwaoji was proper, such a combination would still not equate with the features recited in, for example, independent claim 1 of the present application. For example, the Patent Office posits that the band pass filter 110 of Henrie can be replaced with a cascade of a high pass filter and a low pass filter, as taught by Iwaoji. However, independent claim 1 of the present application recites the features of, for example, a high pass filter responsive to the near end replication transmitter, and a subtractor to subtract an output from the high pass filter from the output from the near end transmitter and an output of the hybrid. However, at most, Henrie teaches that

the transmission signal TX from DAC 30 is supplied to the band pass filter 110, and the output of the band pass filter 110 (or the cascade of the high pass and low pass filters) is subtracted from the output of the hybrid (at Summer 90) to cancel the contribution to the receive signal that is due to the undesired feedback portion of the outgoing transmission signal. [see Henrie, Figure 1 and column 3, lines 15-21]

For at least the foregoing reasons, it is respectfully submitted that the combination of Henrie and Iwaooji does not render the subject matter of independent claim 1 obvious.

Additionally, according to established mandates of the patent laws, “[t]o establish a *prima facie case of obviousness . . . there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.”* [M.P.E.P. § 2142]

“There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art.” [M.P.E.P. § 2143.01] “The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved.” [*In re Kotzab*, 217 F.3d 1365, 1370, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000)] The showing must be “clear and particular, and it must be supported by **actual evidence.**” [*Teleflex, Inc. v. Ficosa North American Corp.*, 299 F.3d 1313, 1334, 63 U.S.P.Q.2d 1374, 1387 (Fed. Cir. 2002) (quoting *In re Dembicza*k, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999)) (emphasis added)] It is not sufficient to rely on “common sense and common knowledge,” as there must be specific evidence to support the motivation. [See *In re Lee*, 277 F.3d. 1338, 1344-45, 61 U.S.P.Q.2d 1430, 1434-35 (Fed. Cir. 2002)]

It is respectfully submitted that the Patent Office has made no showing of a motivation to combine based on actual, specific, evidence. With respect to the combination of Henrie with Iwaooji, the Patent Office asserts that “it would have been obvious for one skilled in the art to implement Henrie such that the filter (110) would be implemented with an alternative as a cascade of a highpass filter and a lowpass filter, as taught by Iwaooji because they [sic] the bandpass filter and the cascade of said highpass filter and said lowpass filter are considered equivalent in [the] art.” [Office Action, page 2; *see also* page 3] It is respectfully submitted that the Patent Office’s alleged motivation is simply a bald, naked assertion, completely unsupported by any actual, specific, evidence. Consequently, it is respectfully submitted that the Patent Office has not established a *prima facie* case of obviousness.

Rather, according to M.P.E.P. § 2142, “[t]o reach a proper determination under 35 U.S.C. 103, . . . impermissible hindsight must be avoided and the legal conclusion [of obviousness] must be reached on the basis of the facts gleaned from the prior art.” Furthermore, according to M.P.E.P. § 2143.01, “[t]he mere fact that references can be . . . modified does not render the resultant combination obvious unless the prior art also suggests the desirability of [such modification].” [*citing* In re Mills, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990)] Since the Patent Office has offered no proper support or motivation for combining the references, it is respectfully submitted that the rejection based on obviousness is clearly and unequivocally founded upon “knowledge gleaned only from applicant’s disclosure.” [*see* M.P.E.P. § 2145] Consequently, it is respectfully submitted that the rejection entails hindsight and is, therefore, improper.

Furthermore, it is respectfully submitted that Iwaooji is non-analogous art. According to M.P.E.P. § 2141.01(a), “[i]n order to rely on a reference as a basis for rejection of an

applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." [M.P.E.P. § 2141.01(a) (citations omitted)] Additionally, "[w]hile Patent Office classification of references and the cross-references in the official search notes of the class definitions are some evidence of 'nonanalogy' or 'analogy' respectively, the court has found 'the similarities and differences in structure and function of the inventions to carry far greater weight.' [M.P.E.P. § 2141.01(a) (citations omitted)]

Iwaooji is directed to a notes detector that receives an input of a musical instrument sound or a human voice, extracts its pitch, determines its note and generates a musical sound electronically in accordance with the result of the determination. [Iwaooji, column 1, lines 9-14] Exemplary embodiments of the present invention are related to an active replication transmitter circuit for near end transmission cancellation. [see present application, page 1] Contrary to the assertions of the Patent Office, it is respectfully submitted that Iwaooji is not within the field of Applicant's endeavor and not reasonably pertinent to the particular problem with which the Applicant was concerned. Additionally, it is respectfully submitted that the "structure and function" of the inventions of Iwaooji and the present invention are dissimilar and different. Consequently, it is respectfully submitted that Iwaooji is non-analogous art to the present invention, and, therefore, the Patent Office has improperly relied on Iwaooji in its attempt to render the claims of the present application obvious.

Independent claims 17, 35, 44, 46, 48 and 85 recite features similar to those recited in independent claim 1, and are, therefore, patentably distinguishable over the combination of Henrie and Iwaooji for at least those reasons state above with regard to claim 1.

Dependent claims 2-4, 10, 18-20, 27, 36, 51, 55, 58, 86-89 and 96 variously depend from independent claims 1, 17, 35 and 85, and are, therefore, patentably distinguishable over the combination of Henrie and Iwaooji for at least those reasons stated above with regard to claims 1, 17, 35 and 85.

With respect the rejection of dependent claims 10, 27 and 96, Applicant notes that the Patent Office has taken Official Notice that “implementing a high pass filter as a one comprising a combination of a resistance and a capacitance is well-known in the art, and the examiner takes Official Notice.” [Office Action, page 3] Applicant respectfully traverses the assertion of Official Notice.

According to M.P.E.P. § 2144.03, “[t]he examiner may take official notice of facts outside of the record which are capable of instant and unquestionable demonstration as being ‘well-known’ in the art.” In other words, official notice may be taken “[i]f the knowledge [outside of the record] is of . . . notorious character.” [M.P.E.P. § 2144.03] Furthermore, “[i]f the applicant traverses such an assertion the examiner should cite a reference in support of his or her position.” [M.P.E.P. § 2144.03] Pursuant to M.P.E.P. § 2144.03, Applicant traverses the assertion of Official Notice and respectfully requests that the Patent Office cite a document that teaches such an allegedly “instant and unquestionable” fact so that the Applicant has a full and fair opportunity to respond to the combination of documents.

For at least the foregoing reasons, it is respectfully submitted that the combination of Henrie and Iwaooji does not render the subject matter of claims 1-4, 10, 17-20, 27, 35, 36, 44, 46, 48, 51, 55, 58, 85-89 and 96 obvious. Accordingly, reconsideration and withdrawal of these grounds of rejection are respectfully requested.

All of the rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance and a notice to that effect is earnestly solicited. Should the Examiner have any questions regarding this response or the application in general, the Examiner is urged to contact the Applicant's attorney, Andrew J. Bateman, by telephone at (202) 625-3547. All correspondence should continue to be directed to the address given below.

Respectfully submitted,

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